



# **Data analytics and service architectures** based on WAMP application data and XBR data transactions with **CrossbarFX**



# Background

The XBR Market Maker, which is part of CrossbarFX, persists XBR data transactions onto (node local) disk.

The persistency is built on LMDB, an embedded, in-memory and fully transactional database (a key-value store).

CrossbarFX uses LMDB together with FlatBuffers to achieve zero-copy, high performance operation both with very high read and write loads (using eg PCIe NVMe flash storage).

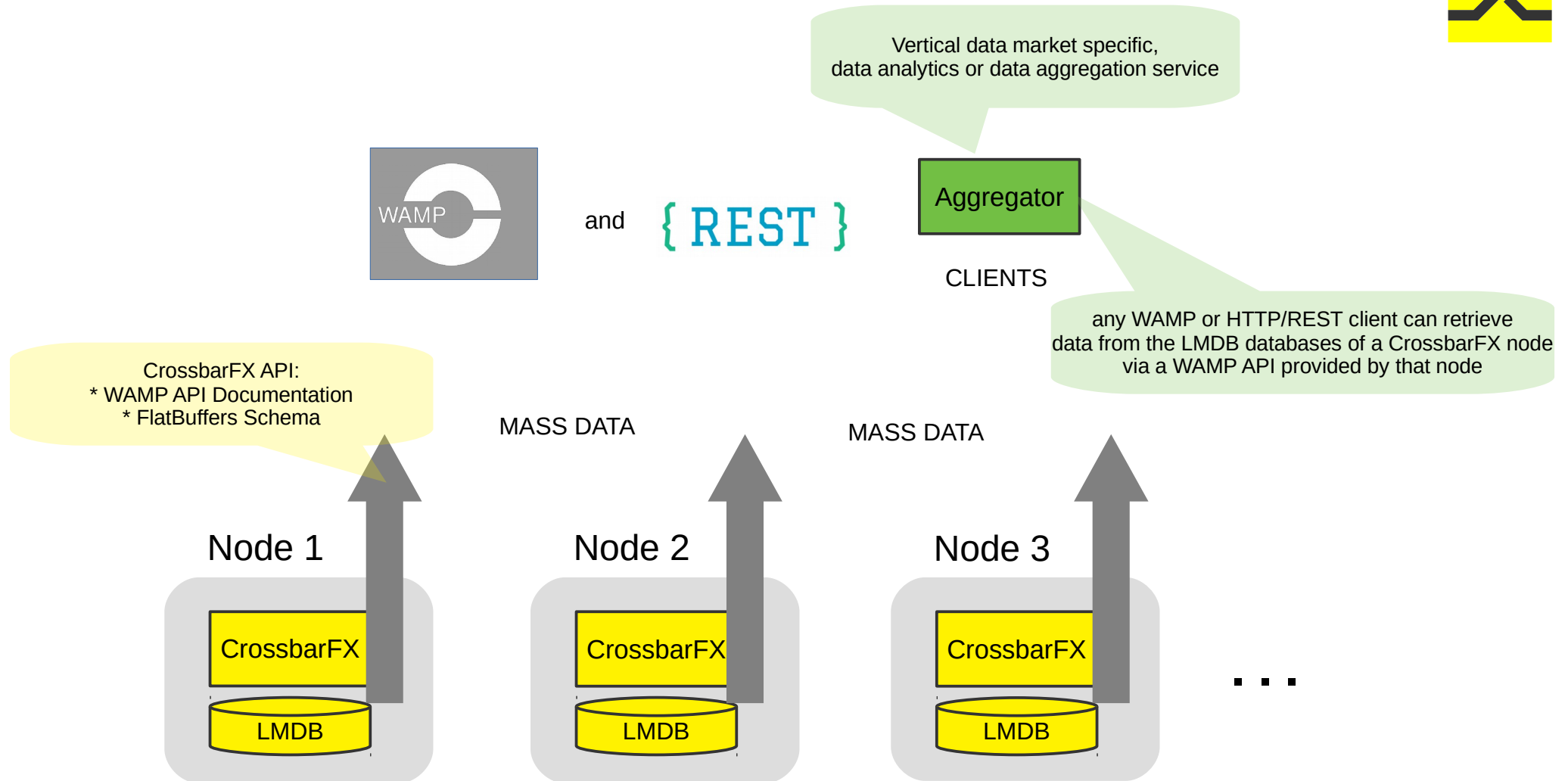
FlatBuffers, created by Google, is a successor of Protobuf with support for "zero-serialization" and zero-copy operation.

CrossbarFX also supports persisting events and calls routed through a node, including filtering for events or calls to persist based on URI patterns.

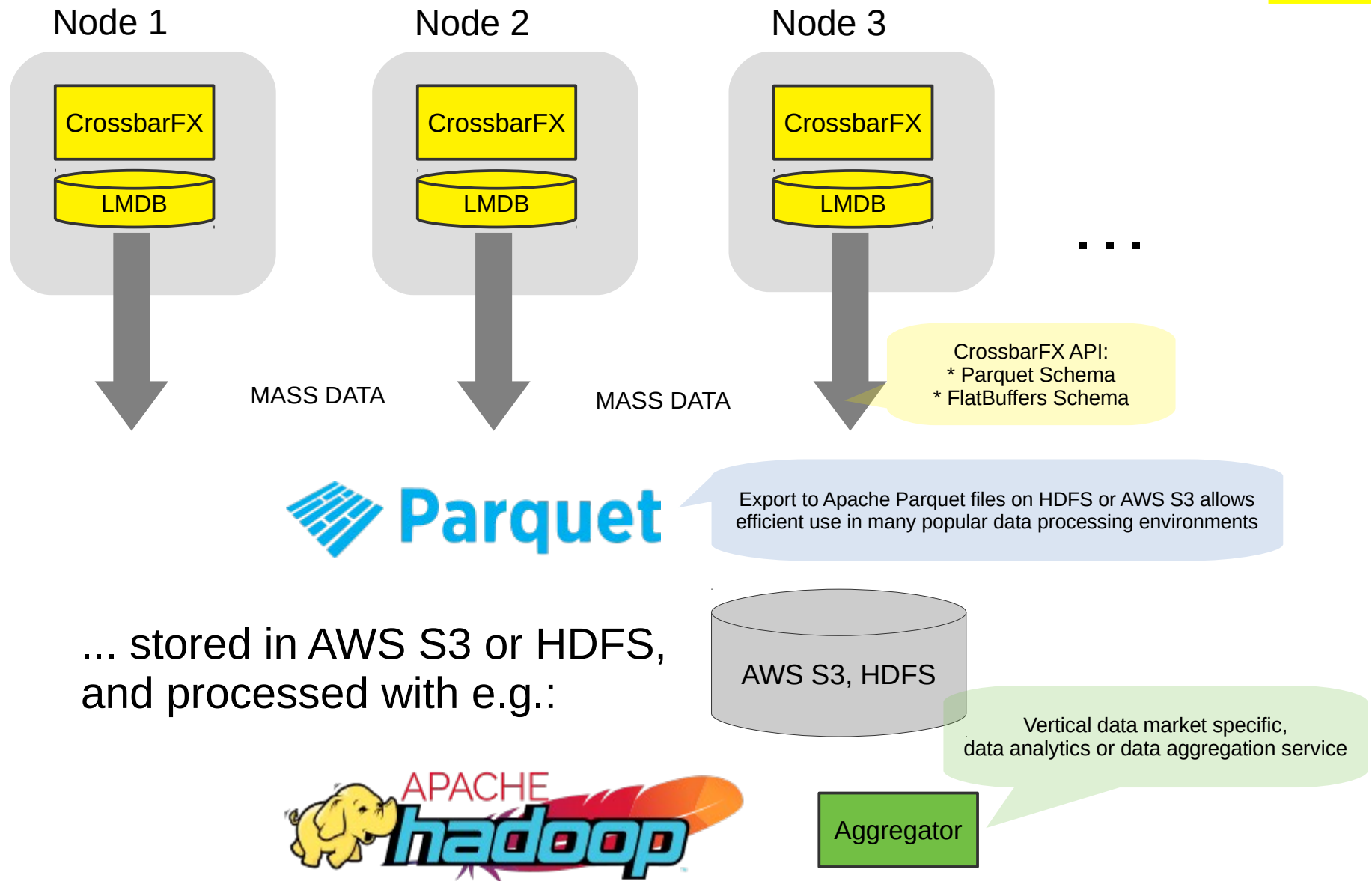
A user may access the data stored by a CrossbarFX node either via a WAMP based query API provided by that node or via direct LMDB database (read-only) access.

CrossbarFX provides the FlatBuffers database table schemata as source code under the commercial CrossbarFX license.

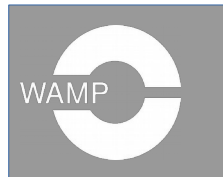
# Analytics Architecture Template 1



# Analytics Architecture Template 2



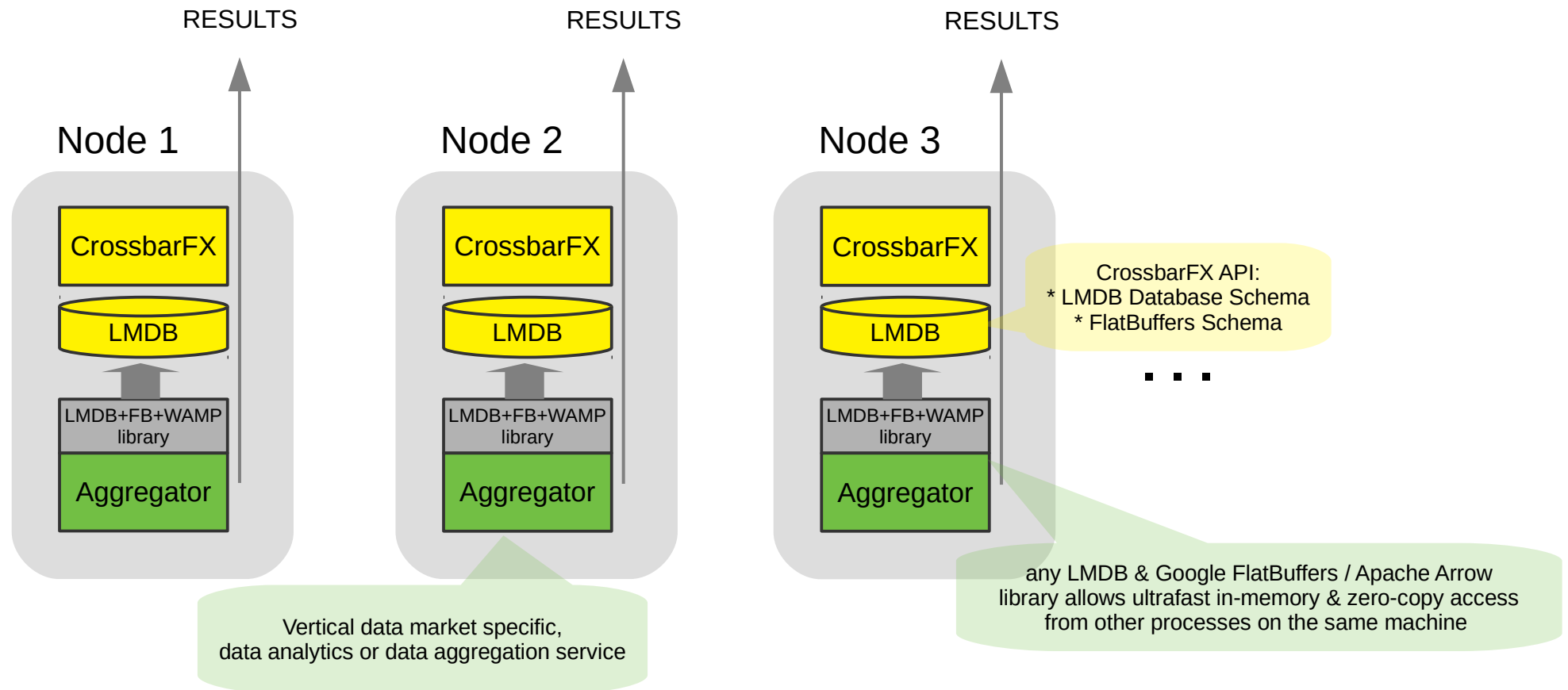
# Analytics Architecture Template 3



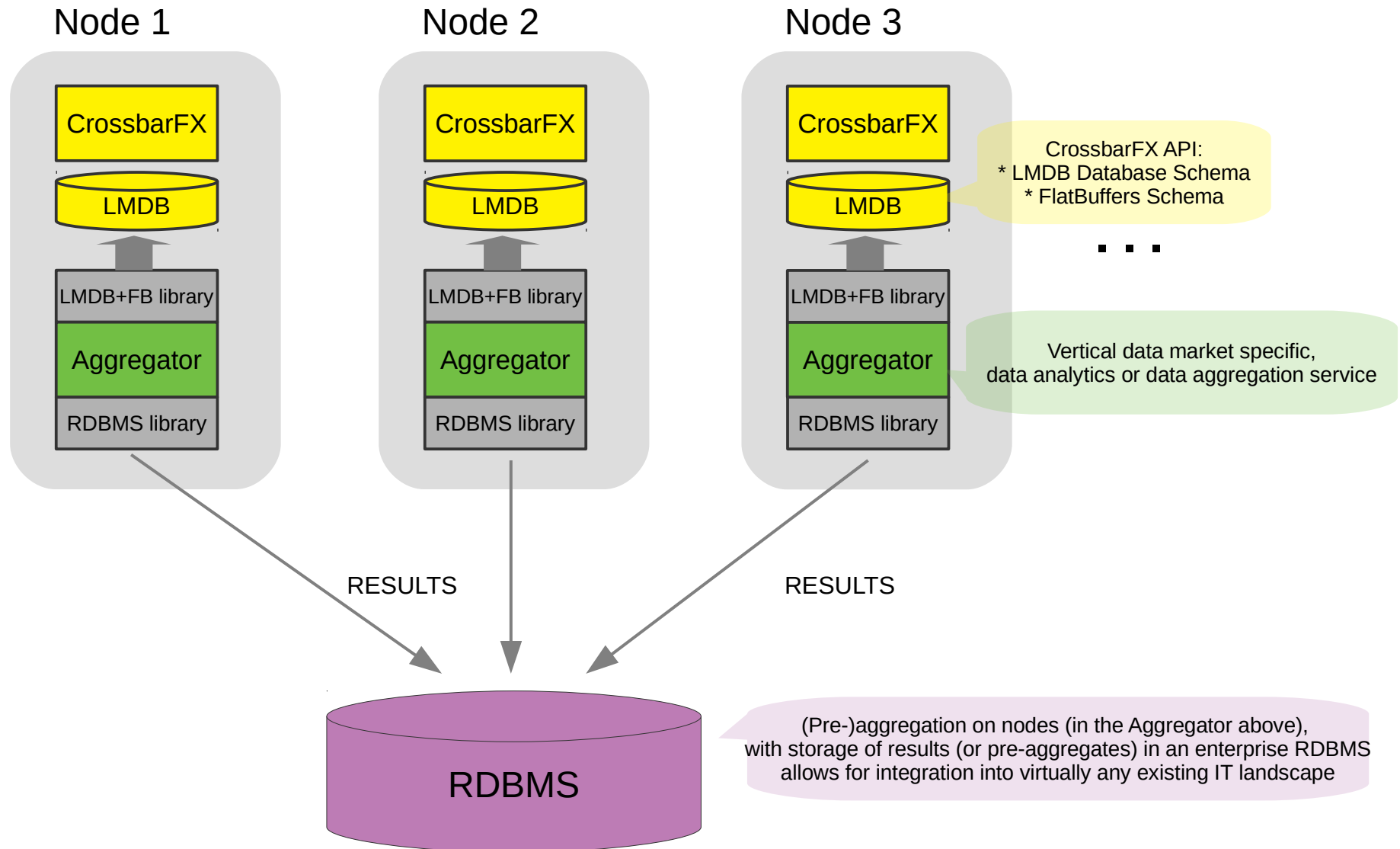
and

{ REST }

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# Analytics Architecture Template 4



# Analytics Architecture Template 5

